



# AFCESA A-GRAM

AIR FORCE CIVIL ENGINEER SUPPORT AGENCY



00-24

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## AIR FORCE QUALIFICATION TRAINING (AFQTP) PACKAGE—HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) ELECTRICAL TROUBLESHOOTING AND REPAIR

### SYNOPSIS:

We have recently completed a new qualification training package – Heating, Ventilation, and Air Conditioning (HVAC) Electrical Troubleshooting and Repair. This production was automatically distributed to all Air Force civil engineer organizations on 1 June 2000. This is a computer-based CD-ROM training program that supports skill level upgrade and proficiency training of military engineer personnel in CE Career Field 3E1X1 – HVAC/Refrigeration.

This QTP consists of five lessons covering general concepts, motors, refrigerators and freezers, heating, and air conditioning. It addresses typical electrical circuitry and components encountered in day-to-day operations.

Lesson one is a basic circuit review, emphasizing typical problems encountered, such as open circuitry, shorted circuits, grounded circuits and improper connection of power.

Lesson two presents information on single-phase motors; three-phase motors; removing, replacing, and aligning techniques; troubleshooting and servicing electrical motors.

Lesson three covers refrigerators and freezers. This lesson covers the characteristics and troubleshooting methods of domestic and commercial refrigerators and freezers.

Lesson four covers different heat systems. It covers four types: electrical, gas, oil, and hydronic heating.

The last of the five lessons covers the systems and components, troubleshooting and servicing air conditioners.

Several specific circuit or component problems are presented to enable the student to gain experience and understand the troubleshooting process.

### ACCESSIBILITY:

Additional copies of this and other QTP training products can be obtained from HQ AFCESA/CEOT. Point of contact is Mr. Ralph Gruber, DSN 523-6181 or commercial 850-283-6181. Questions regarding automatic distribution of this product may also be addressed to Mr. Gruber.

Questions regarding this QTP should be directed to the point of contact listed below.

### CONTACT:

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